Claims 1-14 are pending in this case, Claims 1-6 having been amended by the present amendment.

In the outstanding Office Action, Claims 7-14 were withdrawn from further consideration; Claims 1, 2, 5 and 6 were rejected under 35 U.S.C. § 102(a) as anticipated by Onishi et al (U.S. 5,920,142), Onishi et al (U.S. 5,459,368), or Tsuji et al (U.S. 5,699,027); and Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as unpatentable over Onishi et al ('142), Onishi et al ('368), or Tsuji et al.

Amended Claim 1 is directed to a surface acoustic wave component including a piezoelectric substrate having an active surface on a face of the substrate, at least two internal conductive contacts, a first layer disposed on the face of the substrate and hollowed out locally to a level of the active surface, a printed circuit board having an opposing surface opposite to the face of the piezoelectric substrate and covering the entire first layer, external conductive contacts disposed on the printed circuit board, and conductive holes that connect the external conductive contacts with the internal conductive contacts through the first layer and the printed circuit board. A feature of the claimed surface acoustic wave component is that the area of the face of the piezoelectric substrate is equal to the area of the opposing surface of the printed circuit board. For example, in Figure 3, the piezoelectric substrate 13 has an active surface 14, the first layer 11 is located on the substrate 13 and is hollowed to the level of the active surface 14, and the printed circuit board 12 covers the first layer 11 and the active surface 14, and has external conductive contacts 171 and 172. The external conductive contacts 171 and 172 are connected to the internal conductive contacts 111 and 112 via conductive holes.

Applicants describe in the specification at page 1, lines 27-33, that according to the market requirements, the new surface acoustic wave components have to be smaller and that

> "the trend is towards the ever greater compactness of the packages in order to obtain a component/package assembly whose surface area is equal to that of the chip by itself."

Therefore, the surface wave acoustic component claimed in Applicants' invention advantageously has the area of the face of the piezoelectric substrate equal to the area of the opposing surface of the printed circuit board.

The outstanding Office Action states that Onishi et al ('142) in Figure 19, Tsuji et al in Figures 1a-9a, and Onishi et al ('368) in Figures 1-7 disclose devices similar with Applicants' device.

Onishi et al ('142) discloses in Figure 19 a chip 1, a circuit substrate 8, a space retainer 5 disposed between the chip 1 and the circuit substrate 8 for creating a cavity 20 in front of a functional portion 2, an insulation layer 9 between the space retainer 5 and the circuit substrate 8, and an electrical contact between the chip 1 and substrate 8 provided by an input output electrode 3a, a grounding electrode 3b, a conductive projection 6a, an interconnection portion 6 and the wiring electrode pads 83. The arrangement presented in Figure 19 has an epoxy sealing resin 7 that together with the circuit substrate 8 have an area bigger than the area of the chip 1, and the space retainer 5b together with the isolation layers 9a and 9b have an area smaller than the area of the chip 1. In other words, the surface area the chip 1 (area of the face of the piezoelectric substrate in Applicants' component) and the surface area of either the sealing epoxy resin 7 and the circuit substrate 8 or the space retainer 5b and the isolation layers 9a and 9b (area of the opposing surface of the printed circuit board in Applicants' component) are not equal in contrast with Applicants' device where the two surfaces have an equal area, so that a greater compactness of the surface acoustic wave component can be achieved.

Therefore, Onishi et al ('142) lacks the above feature disclosed and claimed by Applicants for achieving a greater compactness of the surface acoustic wave component.

The other two references applied by the outstanding Office Action, Onishi et al ('368) and Tsuji et al, disclose surface acoustic wave devices similar to the device used by Applicants in Figure 2 and disclosed in the specification at page 1, lines 21-33 as an example of a device lacking a feature of improved compactness.

Onishi et al ('368) shows in each of the Figures 1-7 a device having a substrate 8, a surface acoustic wave element 1 placed on a bump 5 on the substrate 8, and a metallic lid 13 covering both the surface acoustic wave element 1 and the substrate 8. Tsuji et al show in each of the Figures 1a-9a a surface acoustic wave device having a substrate 1, a surface acoustic wave element 14 disposed on metal bumps 11 on the substrate 1, and a metal cap 17 covering both the surface acoustic wave element 14 and the substrate 1. As disclosed in Applicants' specification at page 1, lines 21-33 and claimed in amended Claim 1, for achieving a greater compactness of the surface acoustic wave component, a surface area of the chip (piezoelectric substrate) and the lid (printed circuit board) should be equal.

In both Onishi et al ('368) and Tsuji et al the surface area of the chip is smaller than the surface area of the lid because the chip is contained inside the cavity formed by the substrate with the metallic lid. Therefore, both Onishi et al ('368) and Tsuji et al fail to disclose a surface acoustic wave device having a chip with the surface area equal to the surface area of the covering lid and thus both devices lack the advantage of Applicants' invention.

Therefore, the rejection of Claim 1 as anticipated by Onishi et al ('142), Onishi et al ('368), or Tsuji et al is respectfully traversed. Claims 2, 5 and 6 include limitations similar to those already discussed in relation to Claim 1. Accordingly, the rejection of Claims 2, 5 and

6 as anticipated by Onishi et al ('142), Onishi et al ('368) or Tsuji et al is respectfully traversed for the same reason above-noted with regard to Claim 1.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Onishi et al ('142), Tsuji et al or Onishi et al ('368). In view of the above discussion, it is believed that the dependent Claims 3 and 4, dependent on Claim 1, patentably define over Onishi et al ('142), Tsuji et al or Onishi et al ('368) for the same reason above-noted with regard to Claim 1 and therefore, the rejection is respectfully traversed.

Accordingly, in view of the foregoing, the present application is believed to be in condition for formal allowance. An early and favorable action is hereby respectfully requested.

Respectfully submitted,

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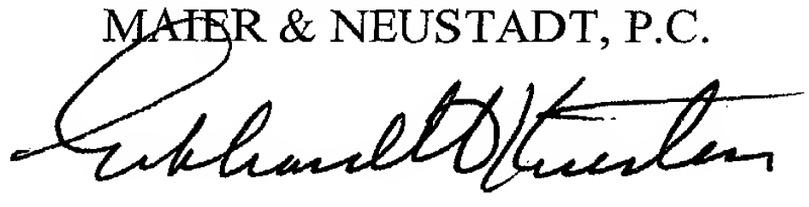

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IN THE CLAIMS

--1. (Amended) A surface acoustic wave component comprising:

a piezoelectric substrate having a face including at least one active surface;

at least two internal conductive contacts disposed on the face of the piezoelectric substrate;

[at least one surface acoustic wave device encapsulated in a package, said device being made on the surface of a piezoelectric substrate by means of interdigitated electrodes powered by first conductive contacts internal to the surface of the substrate, characterized in that the package comprises, in addition to the substrate:]

[-] a first layer located on the face of the piezoelectric substrate and hollowed out locally at least [at the] to a level of the at least one active surface [of the surface acoustic wave device];

[-] a printed circuit board covering the entire first layer and having an opposing surface provided opposite the face of the piezoelectric substrate with the first layer disposed between said opposing surface and said face, said opposing surface having an area equal to an area of said face of said piezoelectric substrate, said printed circuit board further having [comprising second] external conductive contacts; and

[-] conductive via holes going through [the unit formed by] the first layer [/] and the printed circuit board and connecting the [first] internal [conductive contacts to the second] and external conductive contacts.

2. (Amended) The surface [Surface] acoustic wave component according to claim 1, [characterized in that] wherein the first layer is made of photosensitive resin.

3. (Amended) The surface [Surface] acoustic wave component according to [one of the claims] claim 1 or 2, [characterized in that the package has] comprising a second layer, called an adhesive layer, located between the first layer and the printed circuit board.

4. (Amended) The surface [Surface] acoustic wave component according to [one of the claims] claim 1 or 2, [to 3, characterized in that the] wherein an external face of the piezoelectric substrate and [the] side faces of the component are covered with a third layer that is hermetic.

5. (Amended) The surface [Surface] acoustic wave component according to [one of the claims] claim 1 or 2, [to 4, characterized in that] wherein the printed circuit board is metallized on a [the] surface opposite to the first layer.

6. (Amended) The surface [Surface] acoustic wave component according to [one of the claims] claim 1 or 2, [to 5, characterized in that] wherein the first layer has acoustic absorbent properties.--